

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An RF module, comprising:

a first waveguide having a ground electrode and a line-shaped conductor portion for propagating electromagnetic waves in a TEM mode; and

a second waveguide connected to the first waveguide, for propagating electromagnetic waves in another mode different from the TEM mode,

wherein the second waveguide has a region surrounded by at least two ground electrodes stacked in a vertical direction so as to face each other and conductors for bringing the at least two ground electrodes into conduction, wherein electromagnetic waves in said another mode propagate in the region, and a connecting window is provided in one of the at least two ground electrodes,

the first waveguide extends in a stacking direction of the at least two ground electrodes of the second waveguide, an end of the first waveguide is short-circuited and conductively connected ~~from an upper side or a lower side of the stacking direction side to the~~ one of the at least two ground electrodes of the second waveguide at a periphery of the connecting window ~~in a plane containing the connecting window, the one of the ground electrodes of the second waveguide having the connecting window, and~~

magnetic fields of the first and second waveguides are coupled in an H plane of the second waveguide so that the direction of the magnetic field of electromagnetic waves propagated in the first waveguide and the direction of the magnetic field of electromagnetic waves propagated in the second waveguide match with each other.

2. (Original) An RF module according to claim 1, wherein the second waveguide is to propagate electromagnetic waves in a TE mode.

3. (Canceled)

4. (Currently Amended) An RF module according to claim 1, wherein ~~regions~~  
~~for electromagnetic wave propagation in the second waveguide~~ define defines a structure  
including a plurality of propagation regions for propagating electromagnetic waves in  
different directions, the plurality of the propagation regions each having the H-plane, ~~and~~  
~~an~~ the end of the first waveguide is short-circuited and conductively connected  
to boundary portions of the plurality of propagation regions of the second waveguide ~~and, and~~  
the magnetic field of the first waveguide is coupled in the H plane in the  
plurality of propagation regions in the second waveguide.

5. (Currently Amended) An RF module according to claim 4, wherein ~~an~~ the end  
of the first waveguide is short-circuited and conductively connected to the boundary portions  
of the plurality of propagation regions of the second waveguide so that said electromagnetic  
waves propagated through the first waveguide propagate so as to be branched into the  
plurality of propagation regions in the second waveguide.

6. (Previously Presented) An RF module according to claim 1, wherein the  
second waveguide is to propagate the electromagnetic waves of the another mode in a  
multiple mode.

7-8. (Canceled)